

What is Claimed:

1. (Currently amended) A solid electrolytic capacitor ~~comprising~~ consisting essentially of:

- a) a valve metal operably attached to a metal lead;
- b) a dielectric formed on the surface of said valve metal;
- c) a first conductive polymer formed on the surface of said dielectric;
- d) a conductive carbon layer coated onto said conductive polymer;
- e) a second conductive polymer formed on and infused into said conductive carbon

layer;

- f) a conductive metal paint coated onto said second conductive polymer;
- g) a conductive leadframe attached to said conductive metal paint; and
- h) an encapsulating polymeric insulating coating exposing only said metal lead and said

conductive leadframe.

2. (Original) A solid electrolytic capacitor according to claim 1 wherein said valve metal is selected from the group consisting of tantalum, aluminum and niobium.

3. (Original) A solid electrolytic capacitor according to claim 2 wherein said valve metal is a sintered tantalum.

4. (Original) A solid electrolytic capacitor according to claim 1 wherein the dielectric formed on the surface of the valve metal is the oxide of the valve metal.

5. (Original) A solid electrolytic capacitor according to claim 1 wherein at least one of said first and second conductive polymers is an intrinsically conductive polymer.

6. (Original) A solid electrolytic capacitor according to claim 5 wherein both of said first and second conductive polymers are an intrinsically conductive polymer.
7. (Original) The solid electrolytic capacitor according to claim 6 wherein said first and second intrinsically conductive polymers are the same.
8. (Original) A solid electrolytic capacitor according to claim 6 wherein said first and second intrinsically conductive polymers are different.
9. (Original) A solid electrolytic capacitor according to claim 6 wherein said intrinsically conductive polymer is selected from the group consisting of polythiophenes, polypyrroles, polyanilines, polyacetylenes, polydiacetylenes, polynaphthalenes and derivatives thereof.
10. (Original) A solid electrolytic capacitor according to claim 9 wherein said intrinsically conductive polymer is a polythiophene.
11. (Original) A solid electrolytic capacitor according to claim 9 wherein said polythiophene is poly (3, 4-ethylenedioxythiophene).
12. (Original) A solid electrolytic capacitor according to claim 1 wherein said conductive carbon layer is a highly graphitized carbon.
13. (Original) A solid electrolytic capacitor according to claim 1 wherein said conductive metal paint is a silver paint.
14. (Original) A solid electrolytic capacitor according to claim 1 wherein said encapsulating polymeric insulating coating is an epoxide.

15. (Currently Amended) A method for making a solid electrolytic capacitor ~~comprising~~  
consisting essentially of the steps of:

- a) forming a valve metal pellet by pressing and sintering a powder of a valve metal;
- b) attaching a conductive lead to said pellet;
- c) anodizing said valve metal pellet to form a dielectric oxide on the surface of said valve metal;
- d) forming a first conductive polymer on the surface of said dielectric oxide by polymerization of a monomer thereof;
- e) dipping said polymer coated pellet into a suspension of carbon and drying to produce a carbon coated pellet;
- f) forming a second conductive polymer in and on said carbon coated pellet by polymerization of a monomer thereof;
- g) dipping said polymer coated pellet into a paint containing a conductive metal powder;
- h) attaching a leadframe to said paint; and
- i) encapsulating said painted pellet in a dielectric polymeric coating.

16. (Original) A method according to claim 15 wherein the forming of the first and second conductive polymers is by chemical oxidation of monomers.

17. (Original) A method according to claim 16 wherein the monomers are thiophenes.

18. (Original) A method according to claim 17 where the monomer is 3,4-ethylenedioxythiophene.

19. (Original) The method according to claim 16 wherein the oxidant is iron tosylate.

20. (Currently Amended) A ~~metal~~ method according to claim 15, wherein the step of forming a second conductive polymer is repeated.

21. (Original) The method according to claim 15 wherein the paint containing a conductive metal powder is a silver paint.